

## KEY SWITCH DEVICE

Veröffentlichungsnr. (Sek.) : JP2001126582  
Veröffentlichungsdatum : 2001-05-11  
Erfinder : MOCHIZUKI ISAO  
Anmelder : BROTHER IND LTD  
Veröffentlichungsnummer :  JP2001126582  
Aktenzeichen:  
(EPIDOS-INPADOC-normiert) JP20000298698 19920604  
Prioritätsaktenzeichen:  
(EPIDOS-INPADOC-normiert)  
Klassifikationssymbol (IPC) : H01H13/14; H01H3/40  
Klassifikationssymbol (EC) :  
Korrespondierende Patentschriften JP3311336B2

### Bibliographische Daten

**PROBLEM TO BE SOLVED:** To provide a key switch device for making the keyboard thin without reducing the size of the key stroke that ensures the guidance of upward and downward movement of the key top, improves the key input motion, preventing the key input from interference, reduces the number of components, and facilitates the assembling process, thereby reducing the production cost.

**SOLUTION:** A pair of gear link members 7 and 8 are arranged asymmetrically with almost the same channel shape viewed from the top. A toothed wheel 12a of the gear link member 7 is engaged by a toothed wheel 20a of the gear link member 8, while a toothed wheel 12b of the gear link member 7 is engaged with a toothed wheel 20b of the gear link member 8, so that the guide support member is obtained by assembling them into a square shape viewed from the top.

Daten aus der **esp@cenet** Datenbank - - I2

【図4】本実施例によるキースイッチ装置の押下時の側断面図である。

【図5】本実施例によるキースイッチ装置のギャリンク部材の斜視図である。

【図6】本実施例によるキースイッチ装置のホルダープレート部分の斜視図である。

【符号の説明】

1	キートップ
2a, 2b, 3a, 3b	第1係止部
6	案内支持部材
7, 8	ギャリンク部材
10a, 10b, 20a, 20b	基礎部（両側部分）

の一部）

11a, 11b, 21a, 21b 基端部（両側部分の一部）

26 ホルダープレート（ホルダ部材）

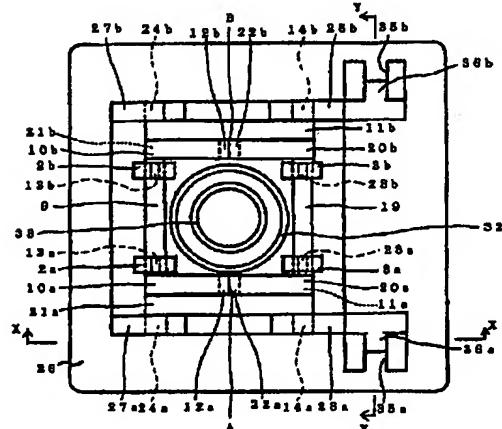
27a, 27b, 28a, 28b 第2係止部

31 フレキシブル回路基板（スイッチング部材の一部）

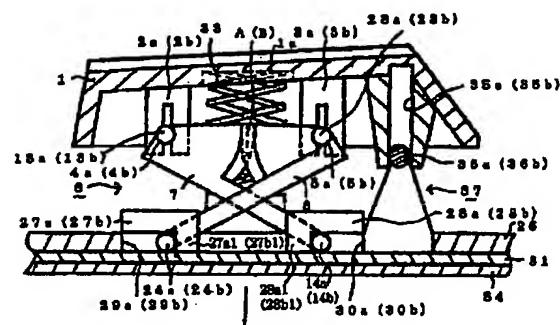
32 ラバースプリング（スイッチング部材の一部）

33 コイルスプリング（スイッチング部材の一部）

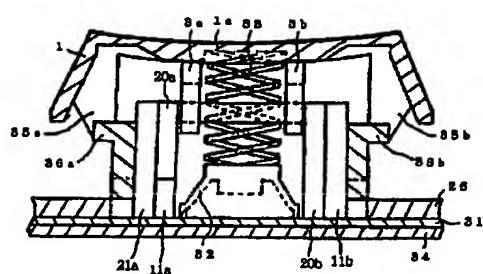
【図1】



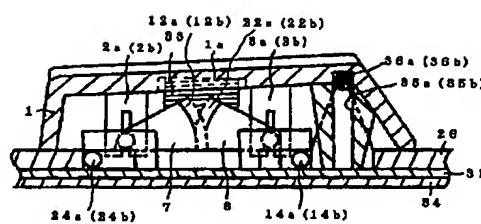
【図2】



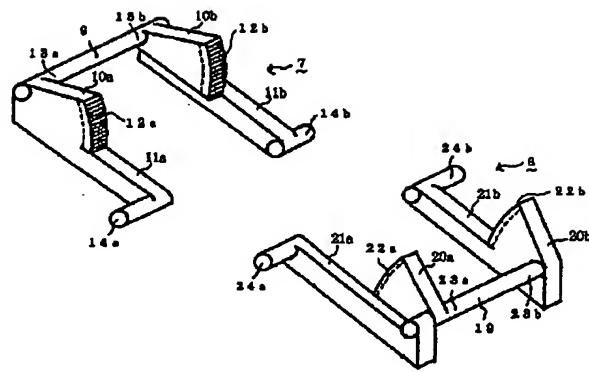
【図3】



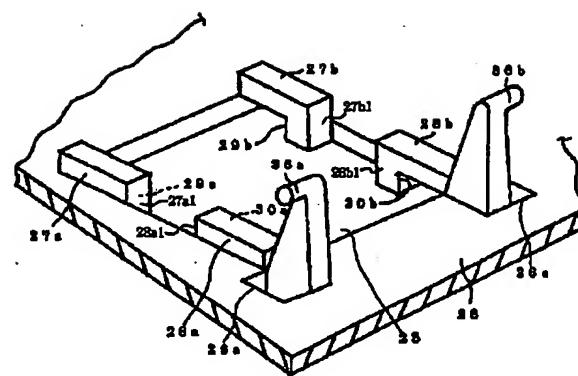
【図4】



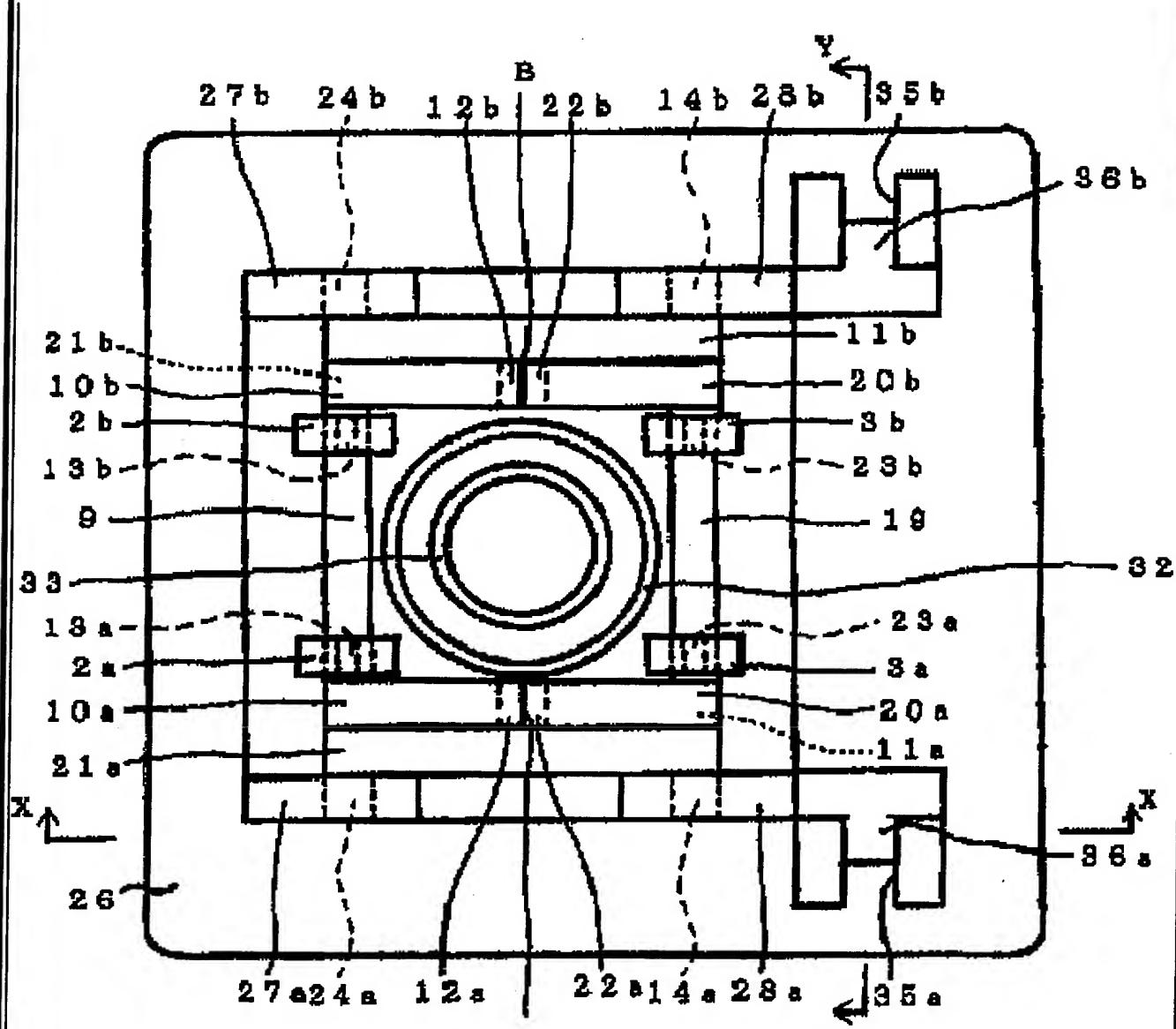
【図5】



【図6】



<b>Title</b>																		
Key switch apparatus for thin keyboard of e.g. notebook type word processor, has key top guide support formed by engaging and combining gears of gear links in square shape																		
<b>Patentee(s)</b>																		
BROTHER KOGYO KK (BRER )																		
<b>Inventor(s)</b>																		
(No Data)																		
<b>Abstract</b>																		
JP-2001126582 A; NOVELTY - A guide support for the vertical motion of a key top is formed by engaging and combining the gear (12b) of one gear link with the gear (20b) of another gear link in square shape. The gear links are arranged in unsymmetrical U-shape form while engaging their respective gears (12a,20a).																		
<b>Use/Advantage</b>																		
USE - For thin keyboard of e.g. notebook type word processor, notebook type personal computer. ADVANTAGE - Reduces thickness of keyboard while maintaining size of key stroke. Ensures reliable key input and satisfactory operation of key input due to reliable guide support of key top's vertical motion. Ensures efficient and improved assembly operation with reduced manufacturing cost. DESCRIPTION OF DRAWING(S) - The figure is a perspective diagram showing the upper surface of the key switch apparatus. Gears of gear links 12a,20a,12b,20b																		
<b>Derwent Class(es)</b>																		
V03																		
<b>Manual Codes</b>																		
V03-C01A3																		
<b>IPC</b>																		
H01H-003/40 ; H01H-013/14																		
<b>Priority</b>																		
<table border="1"> <tr> <th>Priority No.</th> <th>Date</th> </tr> <tr> <td>1992JP-0171603</td> <td>04-Jun-1992</td> </tr> <tr> <td>2000JP-0298698</td> <td>04-Jun-1992</td> </tr> </table>	Priority No.	Date	1992JP-0171603	04-Jun-1992	2000JP-0298698	04-Jun-1992												
Priority No.	Date																	
1992JP-0171603	04-Jun-1992																	
2000JP-0298698	04-Jun-1992																	
<b>Patent Family</b>																		
<table border="1"> <thead> <tr> <th>Patent No.</th> <th>Facsimile</th> <th>Date</th> <th>Language</th> <th>Pages</th> <th>Derwent Week</th> </tr> </thead> <tbody> <tr> <td>JP-2001126582 A</td> <td><a href="#">View</a> <a href="#">Order</a></td> <td>11-May-2001</td> <td>-</td> <td>008pp</td> <td>200143</td> </tr> <tr> <td>JP-3311336 B2</td> <td><a href="#">View</a> <a href="#">Order</a></td> <td>05-Aug-2002</td> <td>-</td> <td>008pp</td> <td>200258</td> </tr> </tbody> </table>	Patent No.	Facsimile	Date	Language	Pages	Derwent Week	JP-2001126582 A	<a href="#">View</a> <a href="#">Order</a>	11-May-2001	-	008pp	200143	JP-3311336 B2	<a href="#">View</a> <a href="#">Order</a>	05-Aug-2002	-	008pp	200258
Patent No.	Facsimile	Date	Language	Pages	Derwent Week													
JP-2001126582 A	<a href="#">View</a> <a href="#">Order</a>	11-May-2001	-	008pp	200143													
JP-3311336 B2	<a href="#">View</a> <a href="#">Order</a>	05-Aug-2002	-	008pp	200258													
<b>Application</b>																		
<table border="1"> <thead> <tr> <th>Patent No.</th> <th>Application No.</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>JP-3311336 B2</td> <td>1992JP-0171603</td> <td>04-Jun-1992</td> </tr> <tr> <td>JP-3311336 B2</td> <td>2000JP-0298698</td> <td>04-Jun-1992</td> </tr> <tr> <td>JP-2001126582 A</td> <td>1992JP-0171603</td> <td>04-Jun-1992</td> </tr> <tr> <td>JP-2001126582 A</td> <td>2000JP-0298698</td> <td>04-Jun-1992</td> </tr> </tbody> </table>	Patent No.	Application No.	Date	JP-3311336 B2	1992JP-0171603	04-Jun-1992	JP-3311336 B2	2000JP-0298698	04-Jun-1992	JP-2001126582 A	1992JP-0171603	04-Jun-1992	JP-2001126582 A	2000JP-0298698	04-Jun-1992			
Patent No.	Application No.	Date																
JP-3311336 B2	1992JP-0171603	04-Jun-1992																
JP-3311336 B2	2000JP-0298698	04-Jun-1992																
JP-2001126582 A	1992JP-0171603	04-Jun-1992																
JP-2001126582 A	2000JP-0298698	04-Jun-1992																
<b>Designated States</b>																		
<table border="1"> <thead> <tr> <th>Patent No.</th> <th>Countries</th> </tr> </thead> <tbody> <tr> <td>(No Data)</td> <td>(No Data)</td> </tr> </tbody> </table>	Patent No.	Countries	(No Data)	(No Data)														
Patent No.	Countries																	
(No Data)	(No Data)																	
<b>World Designated States</b>																		
<table border="1"> <thead> <tr> <th>Patent No.</th> <th>Countries</th> </tr> </thead> <tbody> <tr> <td>(No Data)</td> <td>(No Data)</td> </tr> </tbody> </table>	Patent No.	Countries	(No Data)	(No Data)														
Patent No.	Countries																	
(No Data)	(No Data)																	
<b>Filing details</b>																		
JP-3311336 Previous Publ. JP-2001126582																		
<b>Patent No.: JP-2001126582 A - Image No.:1 [Hi Res Image]</b>																		

**Accession Number**

2001-403167 / 200143

**Title Terms**

KEY SWITCH APPARATUS THIN KEYBOARD TYPE WORD PROCESSOR KEY TOP GUIDE SUPPORT  
 FORMING ENGAGE COMBINATION GEAR GEAR LINK SQUARE SHAPE

© Derwent Information Limited (2000)